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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/415,201	10/12/1999	MASATO SOME	Q56206	4486

7590

03/25/2004

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2100 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 200373202

EXAMINER

TRAN, NHAN T

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 03/25/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/415,201

Applicant(s)

SOME ET AL.

Examiner

Nhan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6 and 9-15 is/are rejected.
- 7) ☒ Claim(s) 3,4,7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see paper No. 8, filed 12/22/2003, with respect to the rejection(s) of claim(s) 1-2, 5-6 under 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Florent et al (US 5,675,380).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 5-6, 9-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Florent et al (US 5,675,380).

Regarding claim 5, Florent discloses an apparatus for correcting influences of a distortion aberration of a lens (i.e., radial distortions) in a first image on an image surface by the lens, the apparatus comprises:

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an image reading unit for reading the first image (source image) formed on the image surface by the lens (Fig. 1A; col. 4, lines 31-42);

a distortion aberration characteristic storing unit (48) for storing a distortion aberration characteristic of the lens (i.e., radial distortions having a distortion center and polynomial function for correction determined by sub-assembly 4 using a test source image), where the distortion aberration characteristic indicates distortions at respective distances from an optical axis on the image surface (see Figs. 4 & 6; Abstract; col. 2, line 36 – col. 3, line 26; col. 5, lines 28-40 and col. 23, lines 1-25);

a distortion position determining unit (combination of 4 and 47) for determining distorted positions in the first image (source image SI) read by the reading unit, corresponding to a predetermined positions in a second image (target image TI) in which the distortions are corrected (see Fig. 1A & 2B; col. 5, lines 28-40 and col. 23, lines 1-25);

position-dependent information obtaining unit (combination of 4 and 47) for obtaining (by searching) at least one kind of image information (intensity data) belonging to the above predetermined position based on the distortion aberration (see col. 23, lines 1-25).

Regarding claim 6, Florent discloses that one kind of image information belonging to each position may be of a brightness value (intensity of monochromatic light) of each pixel and other various signal values (i.e., X, Y addresses) belong to each pixel of the image (see col. 23, lines 1-25).

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Regarding claim 9, Florent also discloses a first frame memory (3) which has a plurality of storage means (inherent memory cells) corresponding to a plurality of pixels of the first image (see Fig. 1A; col. 4, lines 37-42);

a second frame memory (50) which stores the second image in which the distortions are corrected (see Fig. 2B; col. 5, lines 31-30);

wherein the distorted position determining unit obtains a position in a first frame memory corresponding to an address for each of the distorted corrected image in the second frame memory (see col. 5, lines 28-40 and col. 23, lines 1-25).

Regarding claim 10, it is clear that the distortion aberration characteristic indicates distortions at respective distances from a designated coordinate (an optical center) on the image surface (see Figs. 3-8; col. 2, lines 40-53 for radial distortions).

Regarding claim 11, it is also clear that the illustration in Figs. 4-8 is involved in calculation of optical center and polynomial function, wherein the distortion aberration characteristic of the lens illustrates relationship between an ideal height (reference frame) and a distortion amount due to the distortion aberration corresponding to the image height (also see col. 23, lines 1-25).

Regarding claim 12, Florent discloses that the position obtaining unit obtains at least one kind of information of nearby pixels in the image stored in the first memory around the position obtained by the distorted position determining unit (see col. 23, lines 20-25).

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Regarding claim 13, Florent discloses that the distortion aberration is determined by a correction criteria as a ratio of a measurement of the respective distance in uncorrected image data (source image) and the respective distance in corrected image data (target image) as shown in col. 2, lines 60-65).

Regarding claim 14, it is inherent that the correction criteria must be consistent over each respective distant since the correction criteria is based on mathematical formulas for the correction to function properly throughout the distorted image as shown in Figs. 3-8. Also see all linking formulas throughout the reference.

Regarding claim 15, see the analysis in claim 6.

Regarding claim 1, Florent discloses a method for correcting influences of a distortion aberration of a lens in an image formed on a image surface by the lens , wherein distortions and at least one kind of information belonging to each position of the image are corrected according to a distortion aberration characteristic of the lens, and the distortion aberration characteristic indicates distortion at respective distances from an optical axis of the lens (radial distortion of the lens) of the image surface (see Figs. 1-8; col. 23, lines 1-25 and the analysis in claim 1).

Regarding claim 2, see the analysis in claim 6.

Allowable Subject Matter

3. Claims 3-4 & 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior arts of record fails to specifically teach or suggest the combination of limitations as required in claims 3 and 7.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (703) 605-4246. The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.

A handwritten signature in black ink, appearing to read 'Andrew Christensen', with a long horizontal flourish extending to the right.

ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600